RE: Chesapeake tour
John Satterfield
to:
Stephen Kraemer
06/25/2012 09:58 AM
Hide Details
From: John Satterfield <john.satterfield@chk.com>

To: Stephen Kraemer/ATH/USEPA/US@EPA

Hi Stephen:

I checked with our FracFocus reporting folks. It turns out there's a glitch in the reporting system – we intended to separate fresh vs produced water on our disclosures. That's being fixed right now.

On the density side, we're looking at a typical TDS value of 140,000 ppm which equates to roughly 9.2 lbs/gal for the produced water we blend. Once we've reposted those reports showing the breakout btwn the two types of water, you should be able to calculate the overall fluid density. I'll send you an email whenever I get word they've been updated.

The difference btwn this and the Piceance is to be expected – and something I didn't speak to last week unfortunately. Produced water is the common term based on its source (from an oil or gas well)….. Produced water characteristics are different between source rock – sometimes dramatically so – and typically vary in different areas of an individual play.

For instance, I mentioned the other night some of the coalbed methane plays are located within drinking water aquifers – the produced water from those wells is unsurprisingly drinking water-quality. The produced water from our operations in the Barnett Shale is somewhere along the lines of 120,000+ TDS.

From: Stephen Kraemer [mailto:Kraemer.Stephen@epamail.epa.gov]
Sent: Friday, June 22, 2012 3:50 PM
To: John Satterfield
Subject: Chesapeake tour

John,

Thank you and your team for the very informative tour of the hydraulic fracturing facilities in Bradford, County.

As a follow up, you mentioned to me you might be able to find information about the density of the produced water that is blended with fresh water during the drilling and fracturing of the wells. I understand that you use mostly fresh water for the makeup of vertical drilling muds and synthetic oil-based drilling muds for the horizontal legs. However, during the fracturing phase, you mentioned you can use up to a 40% treated produced water blend. What is the density range of the incoming produced waters, and what is the target density range of the blend?

The main reason I ask is I am trying to relate the Chesapeake Fracfocus reported mixture of fresh water and produced/recycled water that is reported as a concentration by percent mass to their water volumes, and given the total water volumes, and knowing an effective water density, I could estimate the volumes of the fresh water and produced/recycled water used.
For example, another HF company working out in the tight sands of Piceance basin in Colorado, where they use 100% treated produced water, reports in Fracfocus comment field their density of 8.40 pounds per gallon.

Appreciate your insights.

Steve

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